

Big and open data in Europe

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1 | THE CONTEXT

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- Rapid growth of the amount of the available data
- ICT innovations allowing to solve technical problems of handling the big data
- Global shift to the open data policies for the public sector
- Concerns about the appropriate regulations for the data from other sources
- The need for the new growth engines for the EU
- Relative weakness of the EU in the Internet economy



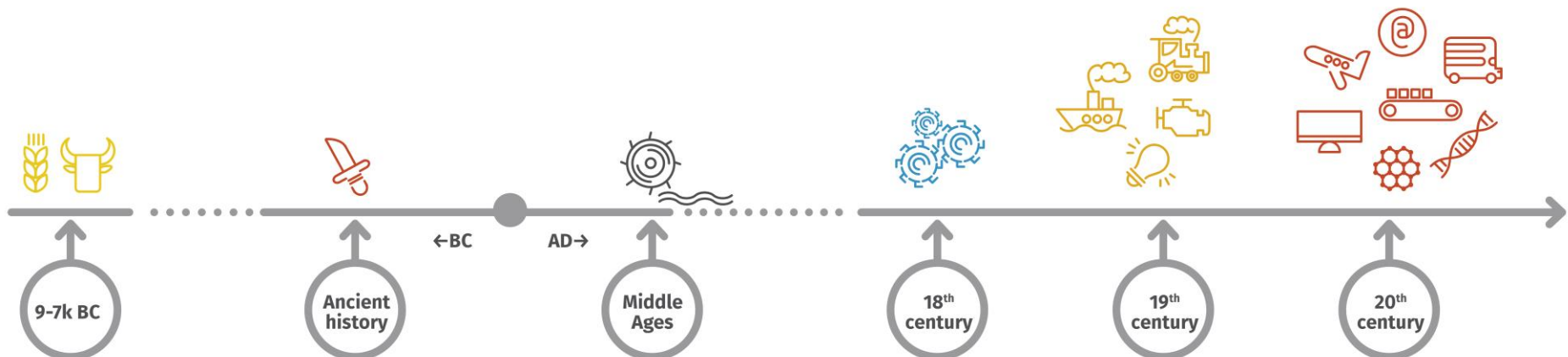
2 | GPTs AND ICT

GENERAL PURPOSE TECHNOLOGIES

General Purpose Technology:

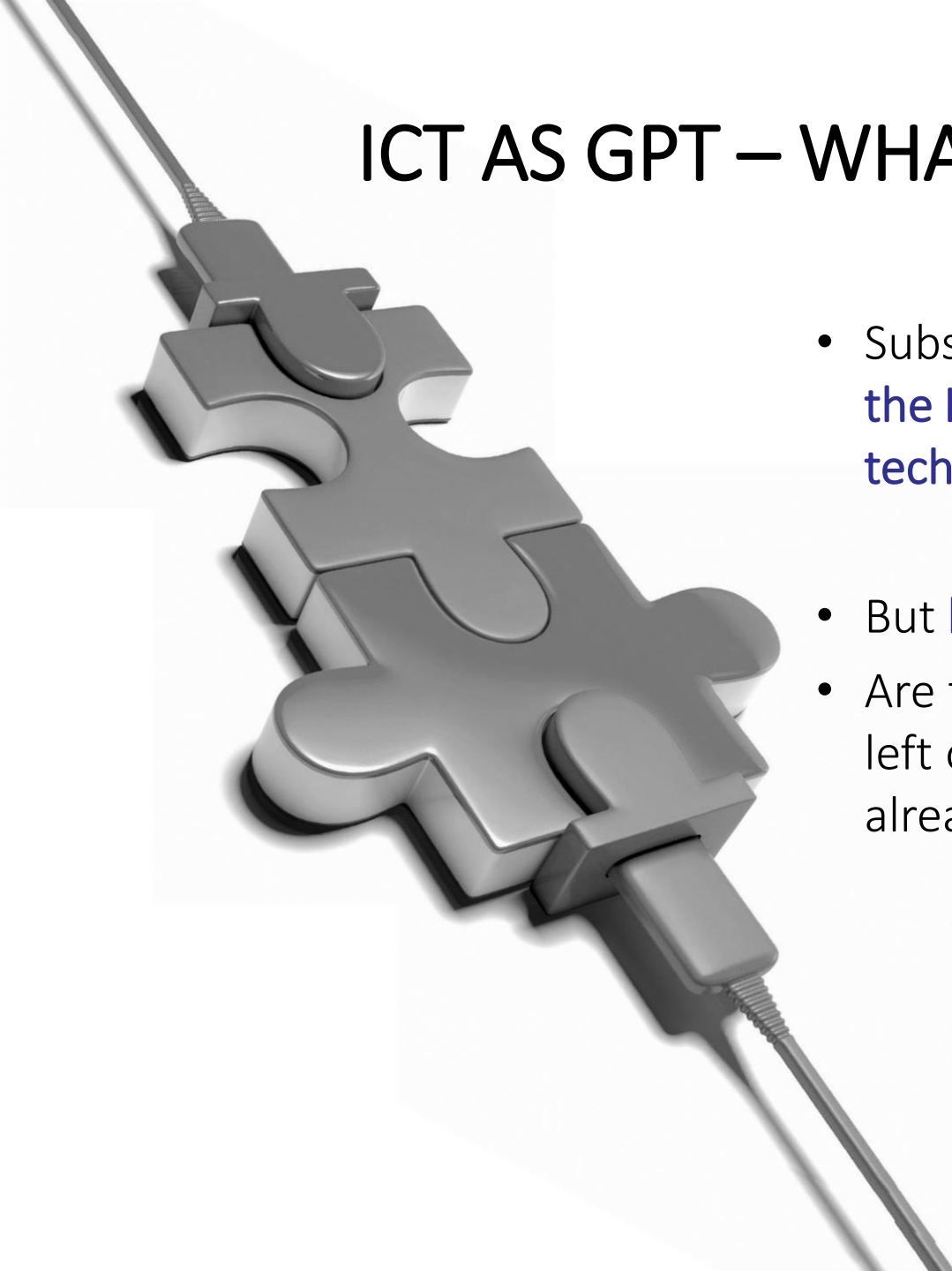
- ✓ potential uses in most branches of the economy
- ✓ significant room for the technological improvements, cutting costs and increasing availability,
- ✓ complementary with wide range of other innovations

Economic impact: long periods of the **increased productivity growth**



ICT AS GPT – WHAT IMPACT?

- Substantial economic evidence that **the ICT is a general purpose technology.**
- But **how long will the ICT impact last?**
- Are there any more **low hanging fruits** left or is the main impact of the ICT already in the past?



BIG DATA

– ANOTHER PHASE OF THE ICT REVOLUTION?

From the **technological perspective** big data builds on the previous ICT advancements and may be seen as the natural next step of development in this area

✓ **Open data** as a **complementary organisational change**

However, to confirm that big and open data represent the extension of the economy-transforming ICT revolution the **additional economic assessment** is needed, including:

- Analysis of the potential **microeconomic impact**
- Robust assessment of the scale of the potential **macro gains**

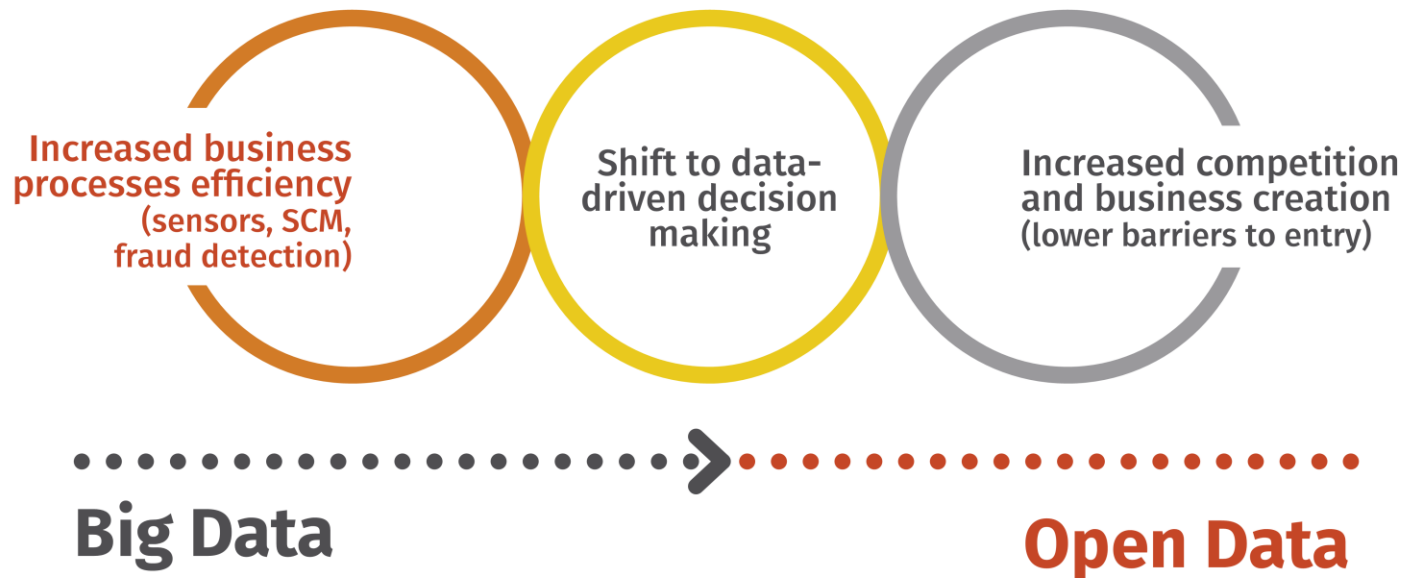


3 | ECONOMIC IMPACT

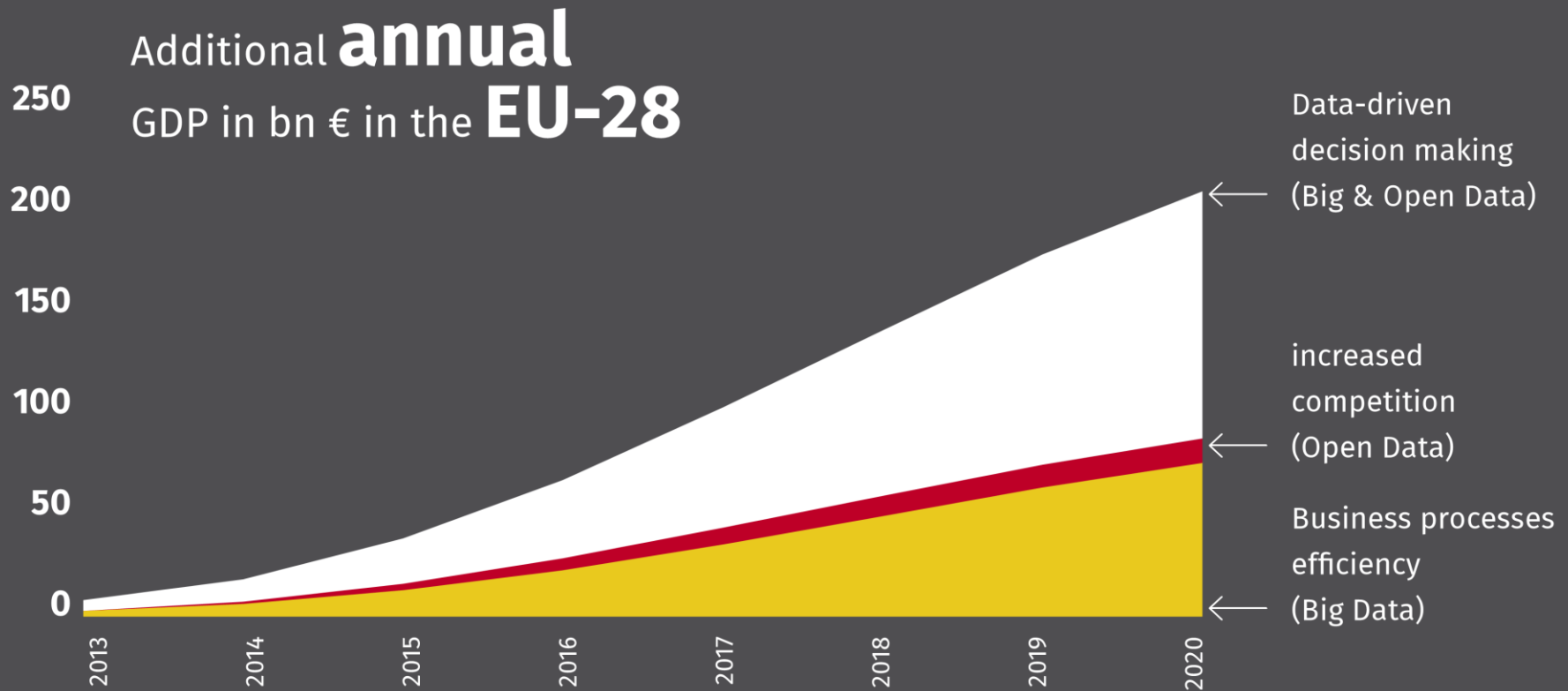
MICRO- VS MACROECONOMIC IMPACTS

Introduction of the data-based innovations → reallocation on the micro level, **first mover advantage**, especially for the ICT sector

Macro impact: **increased productivity** (mainly big data) and **lower barriers to entry** (open data). Growth of the total output split between the data innovations users (non-ICT sectors) and suppliers (the ICT sector)



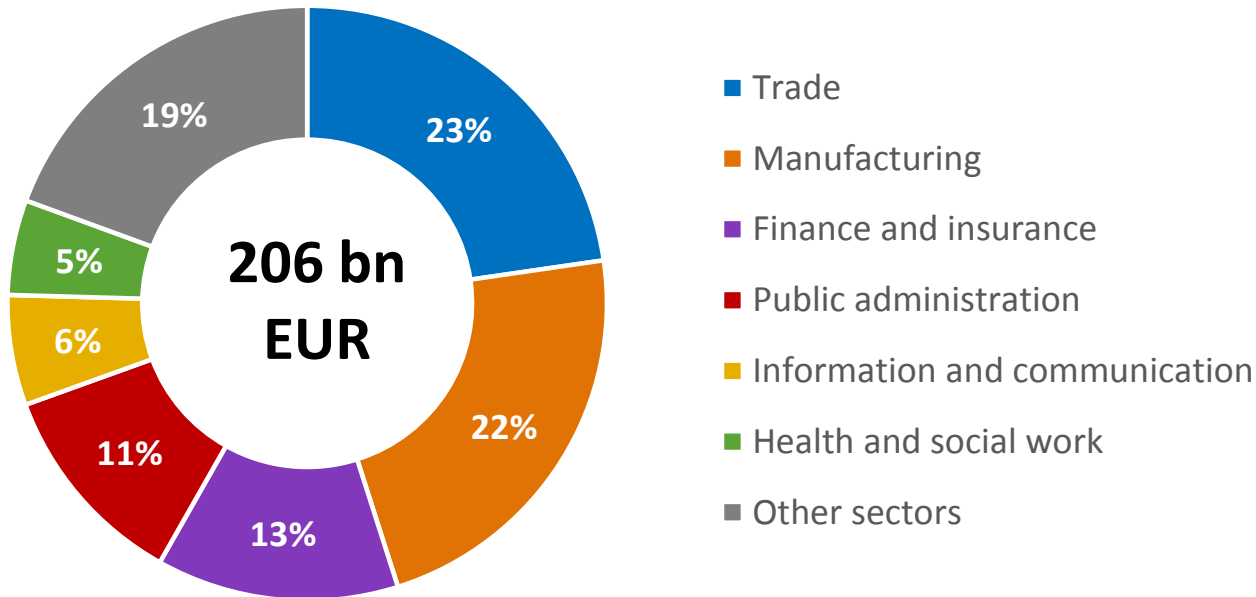
Substantial gains for the EU economy by 2020



Source: BOUDICA model

- >200 bn EUR
- 1,9% GDP = **1 year of growth**
- Key factor – big data
- Open data complementary

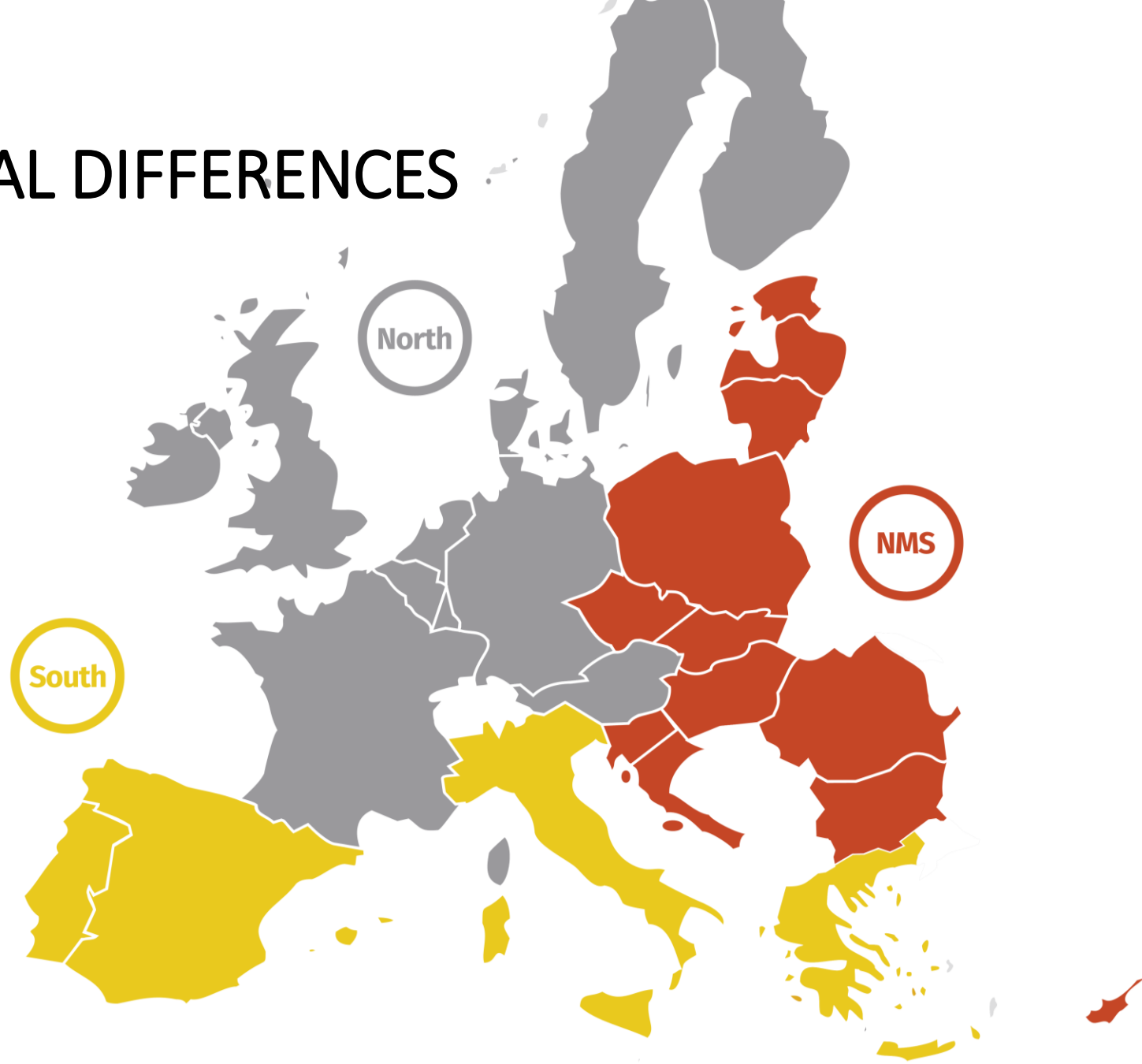
SUBSTANTIAL GAINS FOR THE EU ECONOMY BY 2020



Source: BOUDICA model

- Main gains from the management and efficiency improvements in the **trade and manufacturing**
- The direct input of the ICT sector in productivity gains is modest, though it is expected to capture part of the additional value enabled by its innovations in other sectors

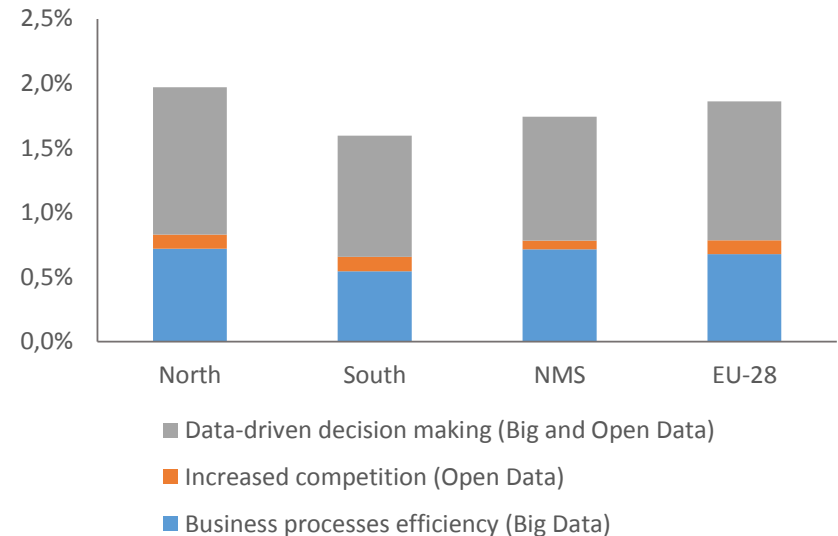
REGIONAL DIFFERENCES



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- The **Northern European** countries to become the **main winners** – both the structural factors (sector composition, firm size) and the ICT adoption propensity are favourable
- The **New Member States** with comparable relative potential, mainly through opportunities for the efficiency improvement in the trade and manufacturing
- The **Southern European** economies face the **greatest challenge** due to the structural weaknesses. However, the gains for them are also substantial

Additional GDP by 2020



	Total additional output, bn EUR	Additional output per capita, EUR
South	40	311
North	150	560
NMS	16	148
EU-28	206	408

REGIONAL IMPLICATIONS

	Key areas	Growth opportunities	Challenges
Northern Europe	Switch to data-driven decision making	Re-igniting industrial growth through data-based innovative solutions	Securing talent for global competition
Southern Europe	Ensuring that SMEs will have access to big data solutions (e.g. by third parties)	Improving public sector efficiency, fostering economy restructuring	Achieving scale effects, securing financing for innovative data solutions, closing the ICT gap
New Member States	Efficiency improvements in manufacturing and trade	Fostering knowledge-intensive services growth	Decreasing innovation lag, enacting effective open data policies

Source: WISE Institute

THANK YOU FOR YOUR ATTENTION



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